

Claims

1. Differential (1) for motor vehicles, installed between two half-shafts (2, 3) on which two drive wheels are keyed, comprising a box (4) driven by the engine of the motor vehicle by means of the connecting means (5) which cause it to rotate about the longitudinal axes (L-L) of the said half-shafts (2, 3), on the free ends of the latter there being keyed two bevel gears (6, 7) housed inside the box (4), and the differential (1) and the half-shafts (2, 3) being contained inside a casing (8), characterized in that each of the flanges (9, 10) through which the half-shafts (2, 3) penetrate into the box (4) has a cylindrical extension (11) outwards, at least the end of which has a plurality of grooves (12i) which are complementary with respect to other grooves (13i) formed on the surface of a coaxial cavity (14) formed in a sleeve (15) slidable coaxially on each half-shaft (2) and rotationally locked thereto, mounted inside the said casing (8) and provided with means (16) which, when actuated, cause it to slide in the two directions (A, B) causing engagement between the said grooves (12i, 13i) or disengagement thereof, respectively locking together the box (4) and the half-shafts (2, 3) or performing disengagement thereof.

2. Differential according to Claim 1, in which the external surface of the said sleeve (15) has, formed in it, an annular slot (17) inside which there engages in a complementary manner a fork member (18) which is approximately semi-circular and integral with the casing (8) and designed with dimensions so that the sleeve (15) is able to slide with respect thereto in the two directions (A, B) so as to perform the said engagement and disengagement of the said grooves (12i, 13i).

3. Differential according to Claim 2, in which the said fork member (18) is integrally fixed to the casing (8) by means of two projecting parts (19, 20) which are aligned and pass through it projecting on

opposite sides, the said two projecting parts (19, 20) being formed by two portions (19s, 19t, 20s, 20t) which can be connected together in a reversible manner.

4. Differential according to Claim 3, in which  
5 the said two portions (19s, 19t, 20s, 20t) of the  
projecting parts (19, 20) are connected together by  
means of a threaded coupling, and the outermost  
portions (19s, 20s) thereof are essentially formed by a  
plug which, pressing against the external surface of  
10 the casing (8), produces a seal preventing the through-  
flow of liquids.